

CLAIMS

1. A protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or a salt thereof.

2. A protein consisting of the amino acid sequence represented by SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or a salt thereof.

3. A partial peptide of the protein according to claim 1, or a salt thereof.

4. A polynucleotide comprising a polynucleotide encoding the protein according to claim 1, or a partial peptide thereof.

5. The polynucleotide according to claim 4, which is a DNA.

6. The polynucleotide according to claim 5, which contains a base sequence represented by SEQ ID NO: 5, SEQ ID NO: 8, SEQ ID NO: 16, SEQ ID NO: 18, SEQ ID NO: 21, SEQ ID NO: 23, SEQ ID NO: 26 or SEQ ID NO: 28.

7. A polynucleotide consisting of a base sequence represented by SEQ ID NO: 16, SEQ ID NO: 18, SEQ ID NO: 21, SEQ ID NO: 23, SEQ ID NO: 26 or SEQ ID NO: 28.

8. A recombinant vector comprising the polynucleotide according to claim 4.

9. A transformant transformed by the recombinant vector according to claim 8.

10. A method of manufacturing the protein according to claim 1, its partial peptide, or a salt thereof, which comprises culturing the transformant according to claim 9, and producing/accumulating the protein according to claim 1 or its partial peptide.

11. A pharmaceutical comprising the protein according to claim 1, its partial peptide, or a salt thereof.

12. A pharmaceutical comprising the polynucleotide according to claim 4.

13. A diagnostic agent comprising the polynucleotide according to claim 4.

14. An antibody to the protein according to claim 1, the partial peptide, or a salt thereof.

15. A pharmaceutical comprising the antibody according to claim 14.

16. A diagnostic agent comprising the antibody according to claim 14.

17. An antisense polynucleotide comprising the entire or part of a base sequence complementary or substantially complementary to a base sequence of the polynucleotide according to claim 4.

18. A pharmaceutical comprising the antisense polynucleotide according to claim 17.

19. A method of quantifying the protein according to claim 1, which comprises using the antibody according to claim 14.

20. A method for diagnosis of a disease associated with the function of the protein according to claim 1, which comprises using the quantifying method according to claim 19.

21. A method of screening a compound or its salt inhibiting the activity of the protein according to claim 1, which comprises using the protein according to claim 1, the partial peptide, or a salt thereof.

22. A kit for screening a compound or its salt inhibiting the activity of the protein according to claim 1, comprising the protein according to claim 1, the partial peptide, or a salt thereof.

23. A compound or its salt inhibiting the activity of the protein according to claim 1, which is obtainable by using the screening method according to claim 21 or the screening kit according to claim 22.

24. A method of screening a compound or its salt inhibiting the expression of a gene for the protein according to claim 1, which comprises using the polynucleotide according to claim 4.

25. A kit for screening a compound or its salt inhibiting the expression of a gene for the protein according to claim 1, comprising the polynucleotide according to claim 4.

26. A compound or its salt inhibiting the expression of a gene for the protein according to claim 1, which is obtainable by using the screening method according to claim 24 or the screening kit according to claim 25.

27. A pharmaceutical comprising the compound or its salt according to claim 23 or claim 26.

28. An antisense polynucleotide comprising the entire or part of a base sequence complementary or substantially complementary to a base sequence of a polynucleotide encoding a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1 or SEQ ID NO: 10, or a partial peptide thereof.

29. A pharmaceutical comprising the antisense polynucleotide according to claim 28.

30. A diagnostic agent comprising the antisense polynucleotide according to claim 28.

31. An antibody to a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1 or SEQ ID NO: 10, its partial peptide, or a salt thereof.

32. A pharmaceutical comprising the antibody according to claim 31.

33. A diagnostic agent comprising the antibody according to claim 31.

34. A diagnostic agent comprising a polynucleotide encoding a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1 or SEQ ID NO: 10, or a partial peptide thereof.

35. The pharmaceutical according to claim 11, 12, 15, 18, 27, 29 or 32, which is a prophylactic/therapeutic agent for a cancer.

36. The diagnostic agent according to claim 13, 16, 30, 33 or 34, which is a diagnostic agent for a cancer.

37. A prophylactic/therapeutic agent for a cancer, comprising a compound or its salt inhibiting the activity of a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof.

38. A prophylactic/therapeutic agent for a cancer, comprising a compound or its salt inhibiting the expression of a gene for a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof.

39. A method of screening a prophylactic/therapeutic agent for a cancer, which comprises using a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof.

40. A kit for screening a prophylactic/therapeutic agent for a cancer, comprising a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof.

41. A prophylactic/therapeutic agent for a cancer, which is obtainable by using the screening method according to claim 39 or the screening kit according to claim 40.

42. A method of screening a prophylactic/therapeutic agent for a cancer, which comprises using a polynucleotide encoding a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1; SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or a partial peptide thereof.

43. A kit for screening a prophylactic/therapeutic agent for a cancer, comprising a polynucleotide encoding a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or a partial peptide thereof.

44. A prophylactic/therapeutic agent for a cancer, which is obtainable by using the screening method according to claim 42 or the screening kit according to claim 43.

45. The pharmaceutical according to claim 11, 12, 15, 18, 27, 29 or 32, which is an apoptosis promoter.

46. A method of screening an apoptosis promoter, which comprises using a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof.

47. A method of screening an apoptosis promoter, which comprises using a polynucleotide encoding a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ

ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or a partial peptide thereof.

48. A method of preventing/treating a cancer, which comprises administering to a mammal an effective dose of (i) the antibody of claim 14 or 31, (ii) a compound or its salt inhibiting the activity of a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof, or (iii) a compound or its salt inhibiting the expression of a gene for the protein.

49. A method of preventing/treating a cancer, which comprises inhibiting the activity of a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, its partial protein, or a salt thereof, or inhibiting the expression of a gene for the protein.

50. Use of (i) the antibody of claim 14 or 31, (ii) a compound or its salt inhibiting the activity of a protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 4, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 25 or SEQ ID NO: 27, or its partial peptide, or a salt thereof, or (iii) a compound or its salt inhibiting the expression of a gene for the protein, to manufacture a prophylactic/therapeutic agent for a cancer.